IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appl. No.	:	10/540,490
Applicant	:	Carmen Almansa Rosales
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Examiner	:	Rei Tsang Shiao
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Customer No.	:	06449
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RESPONSE TO RESTRICTION REQUIREMENT

In an Office Action dated February 4, 2008, the examiner asserted that the pending claims lack unity of invention and he divided the claims into the following groups:

Group I: claims 42-62, in part, drawn to compounds/compositions of formula (I) wherein the variable A represents imidazole, the variable D represents phenyl or pyridine, the variables R1, L and B independently do not represent heteroaryl, heterocycle or together form a ring moiety, the variables R1, L and B independently are not substituted with heteroaryl or heterocycl, and their methods of use.

Group II: claims 42-62, in part, drawn to compounds/compositions of formula (I) wherein the variable A represents pyrazole, isoxazole or oxazole, the variable D represents phenyl or pyridine, the variables R1, L and B independently do not represent heteroaryl, heterocycle or together form a ring moiety, the variables R1, L and B independently are not substituted with heteroaryl or heterocycl, and their methods of use.

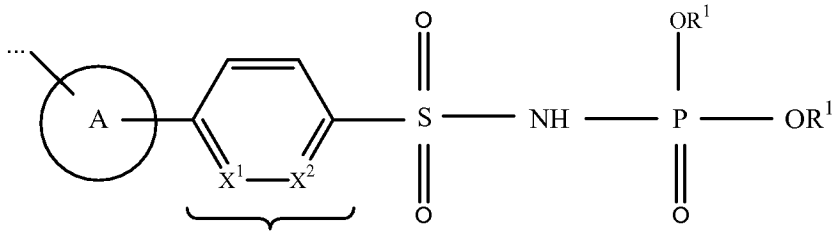
Group III: claims 42-62, in part, drawn to compounds/compositions of formula (I) containing compounds not encompassed in Groups I and II.

The examiner asserted that the claims lack unity of invention because they lack a significant structural element qualifying as the special technical feature that defines a contribution over the prior art. He cited Tawada et al., CAS: 139-246034 as support for this conclusion.

Applicants hereby traverse this restriction requirement.

Applicants respectfully submit that, contrary to the examiner's assertions, the compounds of claim 42 do contain a novel common structure that constitutes a distinctive feature

over the prior art. The novel structure is the ring D (a phenyl or pyridine ring) substituted in para disposition (i.e., 1,4-) with a group $-SO_2NHP(=O)(OR^1)_2$ and the ring A. This is illustrated below:

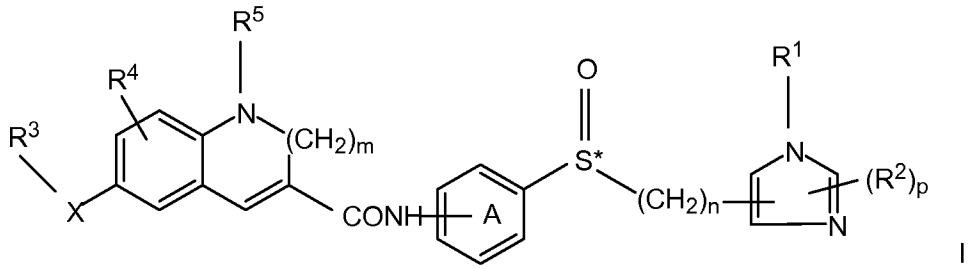


ring D

wherein X^1 and X^2 are either one N and the other C (pyridine), or both are C (phenyl). The other variables are as defined in the claims. It is stressed that this representation is identical in meaning to the relevant part of the formula set forth in claim 42 and is simply another way of writing the new contribution over the prior art, stressing the key features of claim 42.

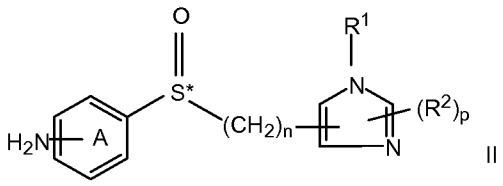
Applicants further respectfully submit that the Tawada et al. reference the examiner cited as support for his assertion that the compounds of the claims do not present a common technical contribution over the prior art is, in fact, irrelevant to the claimed compounds as it does not disclose any $-SO_2-NH-P(=O)(O-)_2$ group, a group which is a necessary presence in all of the claimed compounds.

Specifically, the Tawada et al. reference discloses compounds of general formula I, which have the generic structure:

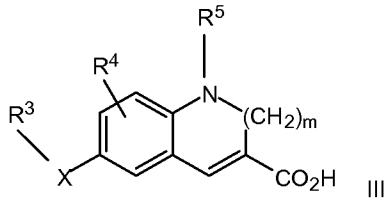


I

and are synthesized from compounds of general formulas II and III, as shown below:



II



III

In the compounds of general formulas I and II, an -SO-(CH_2)n-imidazole group is bonded to a phenyl ring. This is quite different from the key components of the compounds of the present invention, in which a ring, such as an imidazole ring, is bonded to a phenyl or pyridyl ring which also is bonded in the para

position to $-SO_2-NH-P(=O)(OR^1)_2$. As noted above, the Tawada et al. compounds do not include any $P(=O)(O-)_2$ group, much less such a group bonded to a sulfonylamido group. The compounds of the present invention thus do indeed contain a significant structural element which defines a contribution over the prior art.

The important and claimed features of the A - D - $SO_2NHP(=O)(O-)_2$ groups include the depicted order and with the groups on ring D only in the para (i.e., 1,4-) orientation on ring D. If the order is shifted or the orientation is changed, the resultant compounds do not come within the scope of claim 42 and the desired function is not achieved. These features are not found within the reference by Tawada et al.

Accordingly, as all of the claimed compounds comprise the novel common structure $-SO_2NHP(O)(O)_2$ as a substituent on ring D in the para position to ring A, Applicants submit that all of the compounds can and should be examined together. The features of this group are quite specific and, therefore, searchable.

In view of the common structural feature, examination of all of the compounds is warranted even though ring A can be selected from a variety of cyclic compounds. Applicants note that in the last lines on page 4 of the Restriction Requirement the examiner referenced part 1(f(iv)) of Annex B to the effect that if a common structure is present in the claimed compounds, as is true

here, as discussed above, then even if all alternatives of a Markush grouping can be differently classified, that shall not, taken alone, be considered justification for finding a lack of unity. Thus, although ring A can be selected from a number of different cyclic groups, that is not a sufficient basis for finding a lack of unity.

If a restriction requirement, however, is necessary, Applicants respectfully submit that the groups as presently drawn should be reconsidered. As set forth in the Restriction Requirement, the groups are divided on the basis of the identity of the ring A. Group I is limited to compounds comprising an imidazole (5 membered ring comprising two nitrogens not adjacent to one another). Group II is directed to compounds in which ring A is a pyrazole (5-membered ring comprising 2 nitrogens adjacent to one another), or an oxazole (5-membered ring comprising a nitrogen and an oxygen non-adjacent to one another) or an isoxazole (5-membered ring with a nitrogen and an oxygen adjacent to one another). Applicants respectfully submit that as oxazole- and isoxazole-containing compounds can be searched together, then imidazole- and pyrazole-containing compounds also can be searched together as they are the corresponding pair of heterocycles, and Applicants thus request that the compounds of at least this portion of Group II and the compounds of Group I be examined

together. Applicants further request, however, that as the examiner has determined that oxazole-, isoxazole- and pyrazole-containing compounds(i.e., compounds with a ring comprising both an oxygen and a nitrogen and compounds with a ring comprising two nitrogens) can be searched together, then imidazole-containing compounds also should be included and searched with those compounds and that, therefore, all of the compounds of Group I and Group II be examined together.

Furthermore, the examiner has limited each of groups I and II such that each of variables R^1, B and L cannot be a heteroaryl or heterocyclic group or together form such a ring moiety, nor can any of these variables be substituted with a heteroaryl or heterocyclic group. Applicants respectfully submit that the groups should not be so limited. None of R^1, B and L is a central part of the general formula of the claimed compounds of this invention and the fact that any of these substituents may be or include a heteroaryl or heterocyclic group is not key to the search as the search will not be based upon the identity of these substituents. Examination will be based upon the core part of the structure, i.e., A-D-SO_2-NH-P(=O)(O-)$_2$, and searching for compounds relevant to this structure can be carried out regardless of the identity of R^1, B or L. Applicants thus